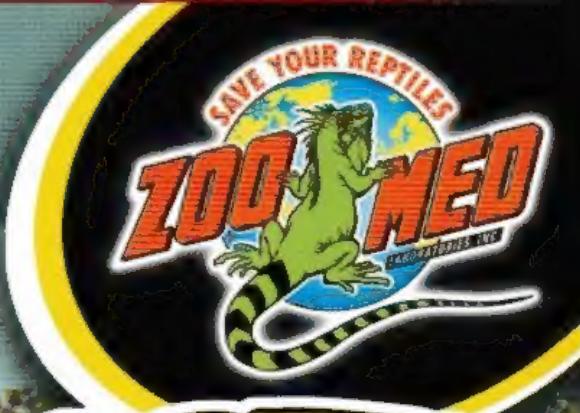


Proper Care and
Maintenance of

HERMIT CRABS



by Josh Klavir



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Photographs courtesy of
Tom Meinhold and Josh Klavir

INTRODUCTION

For those with a taste for the exotic, a Hermit Crab is a wonderful choice as a small pet. Frequently seen in pet stores, the pet Hermit Crab has become increasingly popular due to their relative low maintenance, and the longer life spans of captive kept Crabs due to a deeper understanding of their care requirements. When the enclosure is set up correctly, and a small amount of regular maintenance is performed, Hermit Crabs make active and entertaining pets. They have a peculiar, alien-like appearance, and habits that will have you on the edge of your seat at times. Setting up the enclosure is also a fun and creative process unto itself.

The most commonly found Hermit Crabs in pet shops originate from the shores of the Caribbean Ocean extending throughout and beyond Central America. They are the Atlantic Hermit Crab, or Tree Crab. They usually live in large groups and have been known to literally cover the ground when the group is scavenging by night. Hermit Crabs are primarily nocturnal, meaning they do most of their activity at night, but still remain rather active by day in captivity.



The relatively small Tree Crab is quite variable in its reddish-orange coloration, and has claws that fade to purple on the tip.

BIO OF A HERMIT CRAB

Hermit Crabs are members of the Genus *Coenobita*, and like all other Crabs are Crustaceans. All Crustaceans are also members of the Phylum Arthropoda, which includes insects and spiders.

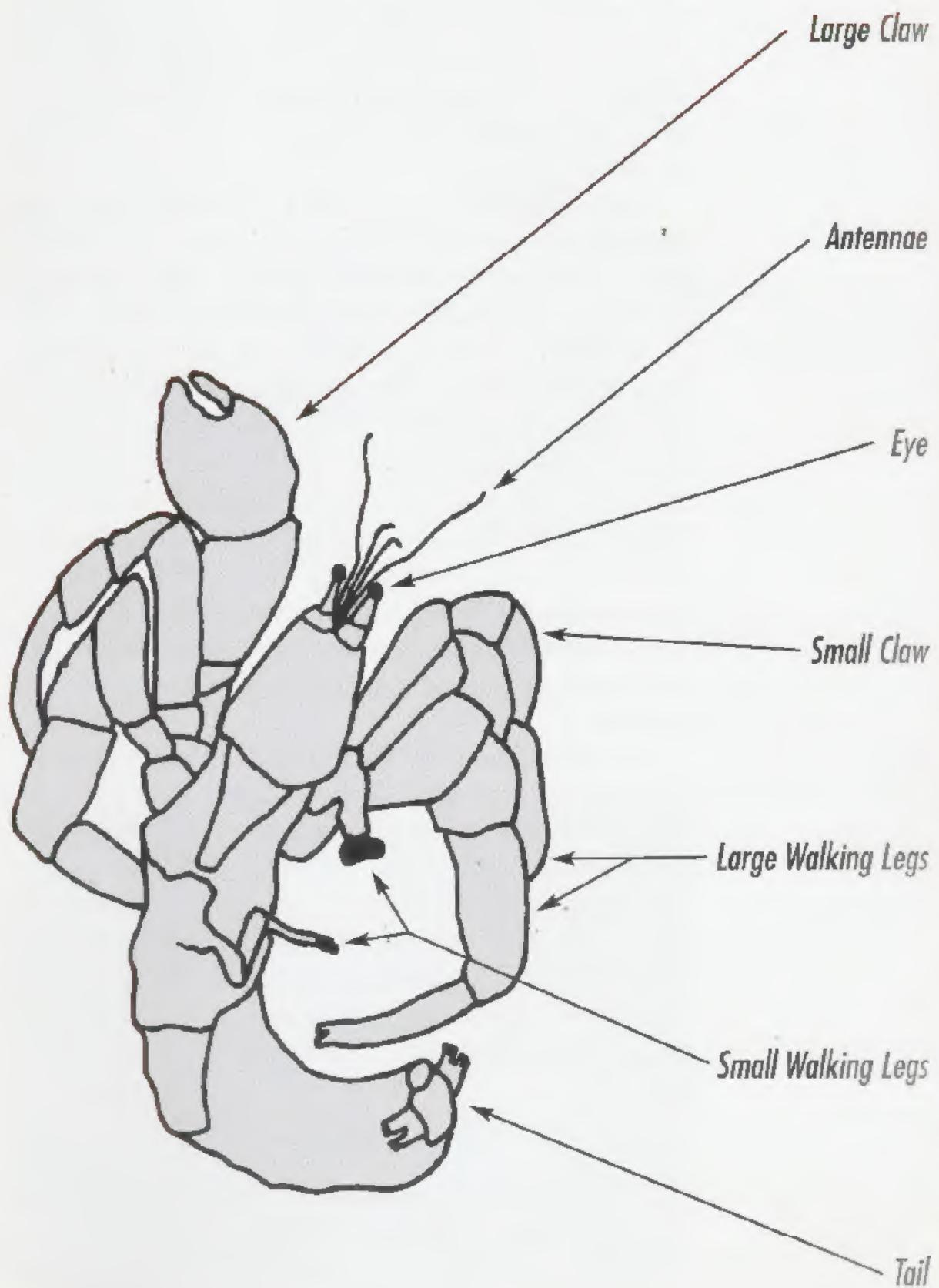
Depending on the availability of food, and shells large enough to accommodate their growing size, Hermit Crabs in the wild may grow to be as large as an orange, and live for over 20 years. This is rare in captivity, but by creating an environment where all the Crab's needs are met, such longevity can be replicated.

Hermit Crabs have an exoskeleton made of chitin, a material not unlike human fingernails. Periodically, in order to grow, Hermit Crabs will "shed" their exoskeleton, which is referred to as molting. When they molt, Hermit Crabs exit their shell, shed their tough outer layer, and undergo a quick growth spurt before the outer shell hardens again. It is during this time that the Crab will regenerate any lost limbs. A Crab may be down to its last claw and viola the next day it's a little bigger and back to having two claws, like magic... I mean molting.

Because Hermit Crabs grow larger when they molt it's important to have slightly larger shells around so the now larger Crab can move its tail into a larger home, and quickly feel safe and secure.

Hermit Crabs have three body segments. The Head and midsection (together known as the cephalothorax), are the only sections where the exoskeleton is hard. The third section, the tail, is comprised of a much softer material. The Hermit Crab's tail is a strong muscle that is used to move the shell about when moving.

Hermit Crabs have two claws, or chelipeds, which differ greatly in size. The left claw is significantly larger than the right, and is used for climbing and defense. The smaller right claw is also used for climbing, but more interestingly is used like a "spoon"



for eating, drinking and transferring water into its shell.

Hermit Crabs have four legs that are used for movement; these jointed legs are cylindrical in shape and come to a point on the bottom. Hermit Crabs use these front legs for moving about, and take advantage of their pointed ends to grip into crevices in rocks and wood while climbing. These legs are strong and should not be underestimated as they can apply a surprising amount of pressure.

There are also four legs which are hidden inside the shell that the Hermit Crab uses for securing the shell in place, maneuvering the shell through tight passages, and keeping the inside of the shell free of debris.

A Hermit Crabs sees with two eyes conspicuously set in front of its body. The eyes move independently of each other giving Hermit Crabs two distinct fields of vision. Located near the eyes are two sets of antennae: one large pair, and one smaller pair that are hinged. Hermit Crabs use their antennae much as we use our sense of taste and smell, and their antennae are an important part of how Crabs find their food. The mouth area of Hermit Crabs contains two "little hands" that are used to put food into the mouth and clean the antennae.

On the inside of the Hermit Crab's shell it hides its tail, the most vulnerable section of the Crab's body. As discussed at the beginning of this section, the tail is not as hard as the rest of the body, but soft and pliable, allowing it to fit into the innards of different sized shells. The shell isn't actually a part of the Hermit Crab's body, but instead is a protective outer shield the Crab carries around with it to retreat to in times of danger. Hermit Crabs also use the shell to store water, like a canteen.

Never try to pull a Crab out of its shell! Hermit Crabs will hold on to their shells to the bitter end and a Crab may become badly injured or killed if removed from its shell by force!



SELECTING A HEALTHY CRAB

When you're ready to bring a Crab into your home, it's important to get the right one. Don't select a Crab that is sluggish and doesn't react quickly when handled. Make sure the Crab's antennae are active and it responds quickly to changes in its environment, such as a human hand coming into the Crab's enclosure. Hermit Crabs should feel solid and heavy in the hand. A healthy Crab will retreat into its shell when first handled and will not appear limp or flexible. Avoid buying a Hermit Crab from a store where there are dead, injured, or inactive Crabs in the enclosure.

It's also important to inspect the Crab and the enclosure it's being kept in for any small insect-like creatures such as mites or other parasites that may be infesting the Crab. Check the enclosure you're buying your Crab from to make sure there's a water source. Avoid buying a dehydrated Crab at all costs!

Hermit Crabs are social animals and live in colonies in the wild. It's a good idea to get as many Crabs as your enclosure has room to hold, thus allowing your Crabs to continue their social activity while in captivity.

DIET

Foods available:

Hermit Crabs will accept a wide variety of foods and fare best when offered a well-rounded diet. It's also fun to experiment with different foods to find out which ones are favorites for your pet Crab. Hermit Crabs will accept many different kinds of food such as: tuna fish, fruits, vegetables, and various man-made foods like peanut butter, and cooked vegetables. Hermit Crabs also seem to have a fondness for potato chips and crackers, especially Saltines. Next time you sit down for a snack of peanut butter and crackers don't forget to share, as you're eating what the author has found to be his Hermit Crab's favorite meal.

Commercial diets

Commercial diets are a good way to ensure your Crab always has nutritious food close at claw. Commercial diets, such as Zoo Med's pelleted formula Hermit Crab Food, are formulated with a good array of different foods to satisfy the Hermit Crab's need for variety in their diet, while still being convenient to feed. Hermit Crabs usually take to commercial diets immediately and will accept them as the staple of their diet. Wet or canned commercial food has a higher "smell factor" than dry prepared hermit Crab food thus is preferred for feeding Hermit Crabs that are picky eaters. Canned foods, such as Zoo Med's wet Hermit Crab Food, are great to mix in with dry foods or fresh treats.



Zoo Med's Hermit Crab Food, Dry Pellet Formula, Wet Canned Formula, Hermit Crab Crunchies and Hermit Crab Fruit Salad.

How to feed

Your Hermit Crabs should have a food bowl containing a few select items that are replaced every day. Offer your Crab an array of foods that includes the following: fruits, vegetables, a source of protein (tuna fish or peanut butter), and a commercial diet formula. A variety of food doesn't have to be offered at every meal, but should be given on a regular basis. It's important to dump out uneaten food from the food bowl and check for uneaten food in the enclosure every day because the left over food may spoil and rot quickly in the Hermit Crab's humid environment.

Clean the food bowl and replace with a small helping of food each day. Don't overflow the bowl with food as most of it will remain uneaten and can spoil quickly. A little goes a long way with Hermit Crab dining.



Here is a well balanced meal that crabs love. The food bowl contains peanut butter, crackers, mango, a raspberry, and wet and dry commercial diet food.

HABITAT



Zoo Med's
Screen Cover



Zoo Med's
Hermit Crab Sand

Years ago people would keep many Crabs together in small enclosures, but that has proven to spark occasionally violent competition among the Crabs. If the weaker Crabs are not able to get their share of the resources, the result may be greatly diminished life spans. Hermit Crabs can undergo a great deal of stress living in cramped quarters but should be given as much territory as possible to make them feel secure. For small Hermit Crabs (around 2") a ten-gallon aquarium is sufficient space for up to 6 Crabs. For larger Crabs (3½"+) a twenty-gallon aquarium is appropriate for 2-3 animals.

It's a good idea to have Crabs of about the same size cohabitating, so the larger Crabs don't bully and intimidate the smaller ones, keeping them from getting food and water. Large Hermit Crabs can be bullies, but providing enough space and hiding areas for all your Crabs is a simple solution for ensuring that all your Crabs get enough food and water.

Hermit Crabs can also be escape artists, so getting a terrarium with a lid, or an aquarium cover will be necessary. Hermit Crabs also need ventilation, so only a screen top, such as Zoo Med's Screen Cover, is recommended.

Substrate

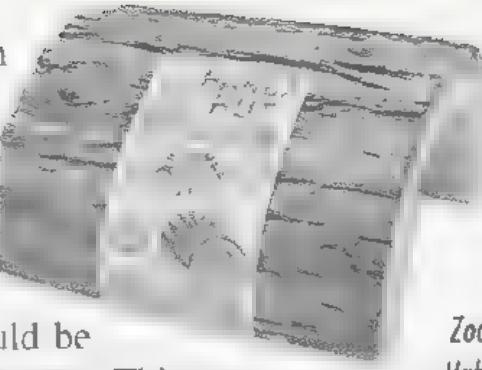


Zoo Med's
Hermit Soil™

Hermit Crabs live on the coastal areas of tropical regions and will appreciate a sand or sandy soil substrate. Small pieces of coral or broken seashell may be added to create a more naturalistic effect. The author prefers to use a mix of two parts sand to one part coconut bedding, such as Zoo Med's Hermit Soil™. This seems to give the Crabs a bedding that is easy to burrow into. Furthermore, the moisture in the sand is broken up by the fibers of the coconut bedding which helps keep the substrate from

getting waterlogged, and aids in creating humidity.

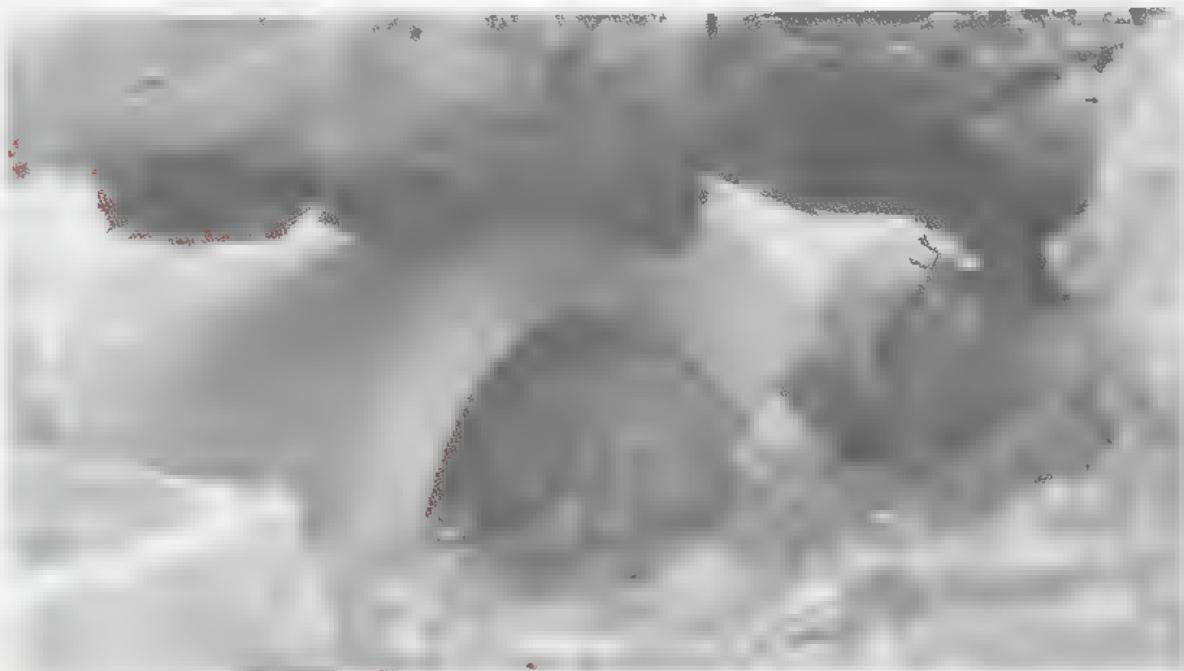
The bedding for your Hermit Crabs should be rather deep as they enjoy burrowing into moist sand. Burrowing is also an important part of the molting process. The sand should be about 3" deep in at least half of the enclosure. This area will become the burrowing area. Additional misting should be done in the burrowing area when the Crabs bury themselves there. Remember, crabs like the humidity high, but the ground dry, so it's important to not mist so much that the substrate contains standing water.



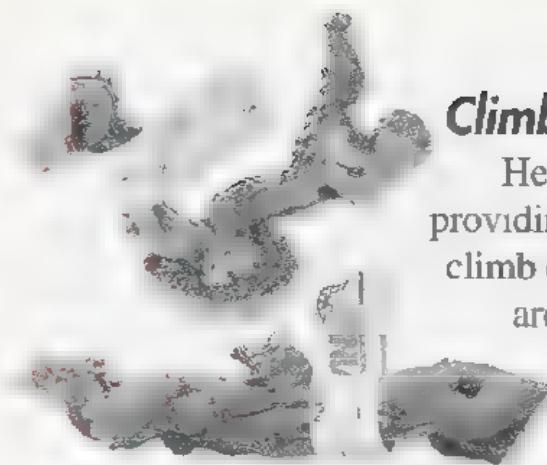
Zoo Med's
Habba Hut

Hiding spots

It's important to provide hiding spots in your Crab's enclosure at different sides so that the Crabs can retreat to the hotter or cooler side of the enclosure. Having hiding spots, such as Zoo Med's Habba Huts, will help make your Crabs feel safe and allow them to escape from other Crabs that may be dominating over them.



Hermit Crabs may retreat to a hiding spot for burrowing, or as a "safety zone" to help them feel safe from predation.



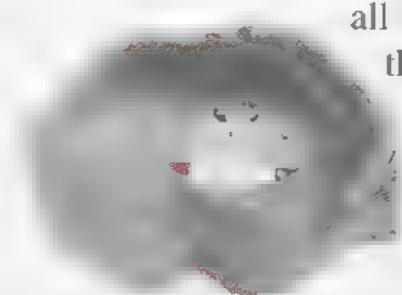
Climbing area

Hermit Crabs are natural climbers, and providing them with things in the enclosure to climb on is very important to making sure they are healthy, and getting the proper amount of exercise.



*Zoo Med's
Habba Tree,[®]
Reptile Vine,
or Jungle
Gym[®]*

Anything kept in the enclosure must be sturdy as the Crabs will climb on anything at almost any angle, and could easily be trapped or hurt by having cage furniture fall on them. Appropriate climbing materials would include: rocks, coral pieces, and wood products such as Zoo Med's Reptile Vines, Habba Trees[®] or Jungle Gyms[®].



*Zoo Med's
Repti-Rock Water Dish*

Food and water bowls

A shallow food bowl and two shallow water bowls should be provided on the cool side of the enclosure at all times. The bowls should be shallow enough that the Crabs can access the insides easily, but tall enough to help keep substrate out. Small or even extra-small bowls, such as Zoo Med's Repti-Rock Bowls, are recommended.

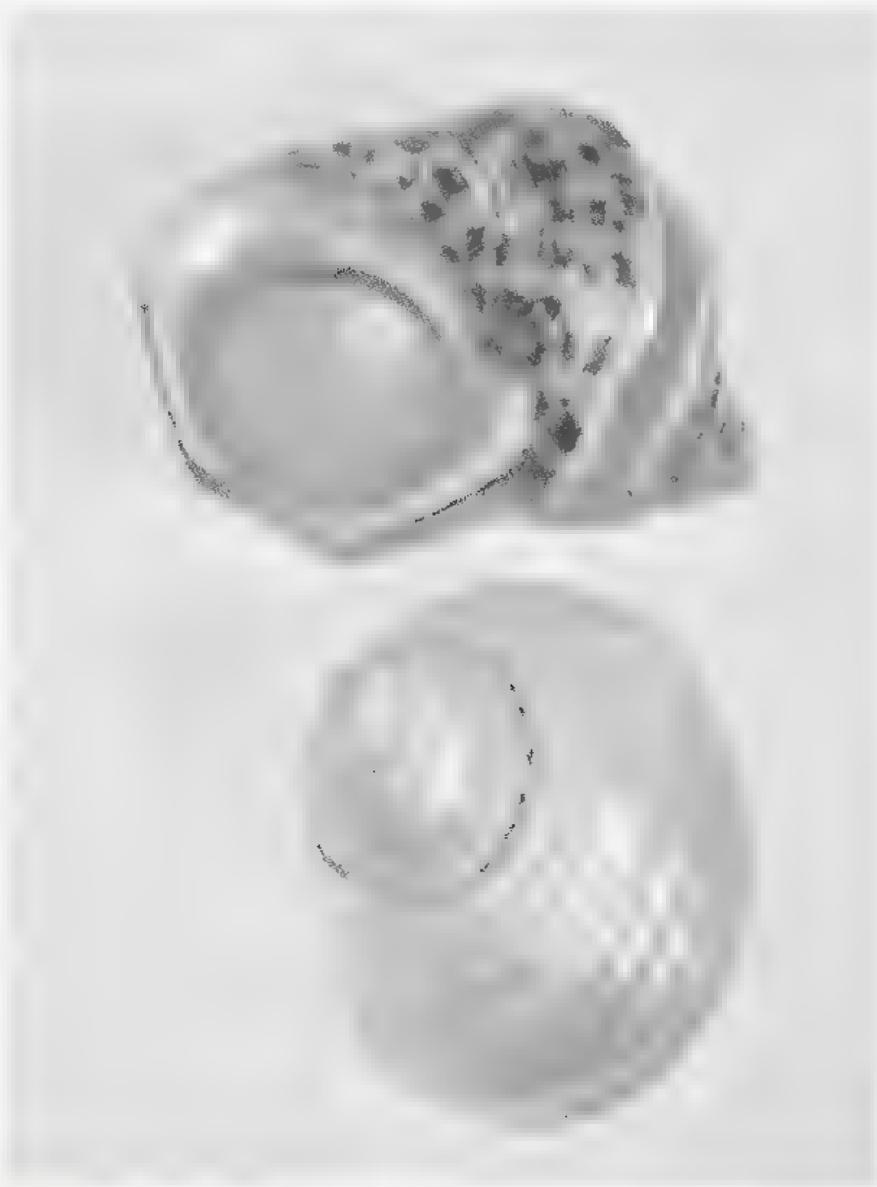


*Zoo Med's
Hermit Crab Ramp Bowl*

Shells

Your Hermit Crab will need to change shells as it grows, and an assortment of shells, slightly larger than the one your Crab is currently in, should be provided throughout the enclosure. Shells with a rounded opening are preferable to oblong shaped openings, as the Crab is able to get more of its body into a round opening. This is very important as making sure the Crab is able to get most of its body into the shell will allow it to feel more secure and protected against predators. The shell is an important part of your Hermit Crab's health. They use the shell not only for defense, but also carry water in the innards of their shells to ensure they

don't get dehydrated. Never offer shells that have holes or cracks as the water may leak out. Hermit Crabs are fairly intelligent and often will not accept a shell that has holes in it anyway. Failing to provide an assortment of shells may cause your Crab undue stress when it comes time to molt. It is probably a Hermit Crab's greatest fear to be left out in the open with no shell to hide its soft tail in. This is when a Hermit Crab is most vulnerable, not just to predation, but also to bullying from cage-mate Crabs.



Ornamental shells, such as these, are perfectly fine to offer your crab, just remember to only offer shells with round openings.



**Zoo Med's
Precision Analog
Humidity Gauge**



**Zoo Med's
Hermit Crab
Drinking Water
Conditioner**



**Zoo Med's
Hermit Crab
Salt Water
Conditioner**

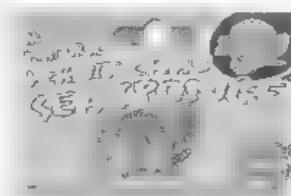
Water

Water is as important to a Hermit Crab as air is to us. Hermit Crabs don't breath air in like we do but instead assimilate oxygen into their bloodstream through the oxygen stored in water, and in air humidity. In fact, Hermit Crabs have gills like fish. This is why it's so important to keep the humidity level high in your Crab's enclosure. Providing a fine mist of water at least once per day should bring the humidity level up to around 90%, and allow the humidity level to remain at about 70% throughout the remainder of the day. A humidity-reading device, such as Zoo Med's Analog Humidity Gauge, is highly recommended to ensure your Crabs aren't drying out.

It's also of extreme importance that your Crabs have water available to them in their enclosure. Provide two full water bowls with sponges at all times. One water bowl will be the fresh water source, the second the salt water source. If you are using tap water, use Zoo Med's Hermit Crab Drinking Water Conditioner to remove harmful chemicals and add calcium.

Use Hermit Crab Salt Water Conditioner to turn tap water into crab safe salt water.

Without enough water and humidity in their enclosure, Hermit Crabs perish quickly of dehydration.



Use Hermit Crab Sea Sponges in the water dishes to prevent drowning and increase humidity.

Heat

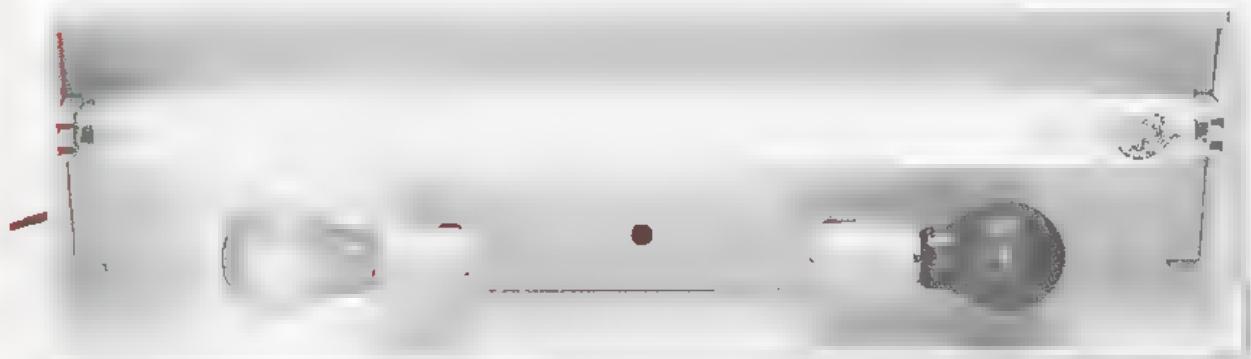
Hermit Crabs come from a tropical environment, so replicating the temperatures of those environments is an important part of keeping your Hermit Crab healthy. Hermit Crabs want their enclosures to be a comfortable 78-83 degrees. It's important to create a heat gradient in the cage so that there is a warm end in the low 80s and a cooler end in the high 70s. Temperatures like this should be maintained both day and night, as Hermit Crabs are nocturnal and need heat to keep up their energy levels during their nighttime feeding and digesting.

Keeping the air temperatures warm enough can be easily accomplished by using a daytime heat bulb, such as Zoo Med's Daylight Blue Bulb on one side of the enclosure that stays on for 12-14 hours of the day. A second heat bulb made specifically for nighttime heating, such as Zoo Med's Nightlight Red Bulb, should be used for the remaining nighttime hours. Using only a night-time bulb, on 24 hours, will result in creating proper heat, but the red night-time bulbs don't allow for very appealing viewing. If separate daytime and nighttime bulbs are used, it's important to have two different fixtures for the bulbs. Daily screwing and unscrewing of the bulbs can greatly



*Zoo Med's
Daylight Blue and
Nightlight Red bulbs*

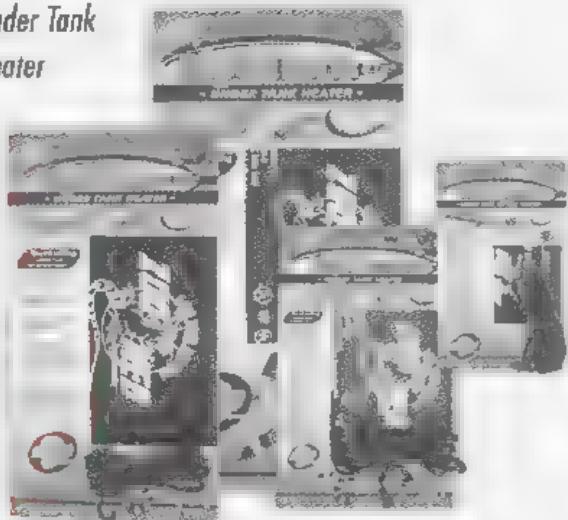
*Zoo Med's
Combination Reptile
Strip equipped with
Daylight Blue,
Nightlight Red, and
ReptiSun 2.0 bulbs*



diminish their life span, and will certainly be more expensive to continually replace bulbs than to buy a second clamp lamp or terrarium hood with two fixtures in the first place.

Using a heat pad, such as Zoo Med's ReptiTherm® Under Tank Heater, may provide additional 24-hour heat. Place the heat pad in the warmer side of the enclosure towards the rear of the tank. A hiding spot may be provided on top of the substrate in the same area as the heat pad to create a warm "cubby-hole." Not providing enough 24-hour heat for your Crabs is a recipe for unhealthy, lethargic Crabs, which will probably perish quickly.

*Zoo Med's
ReptiTherm®
Under Tank
Heater*

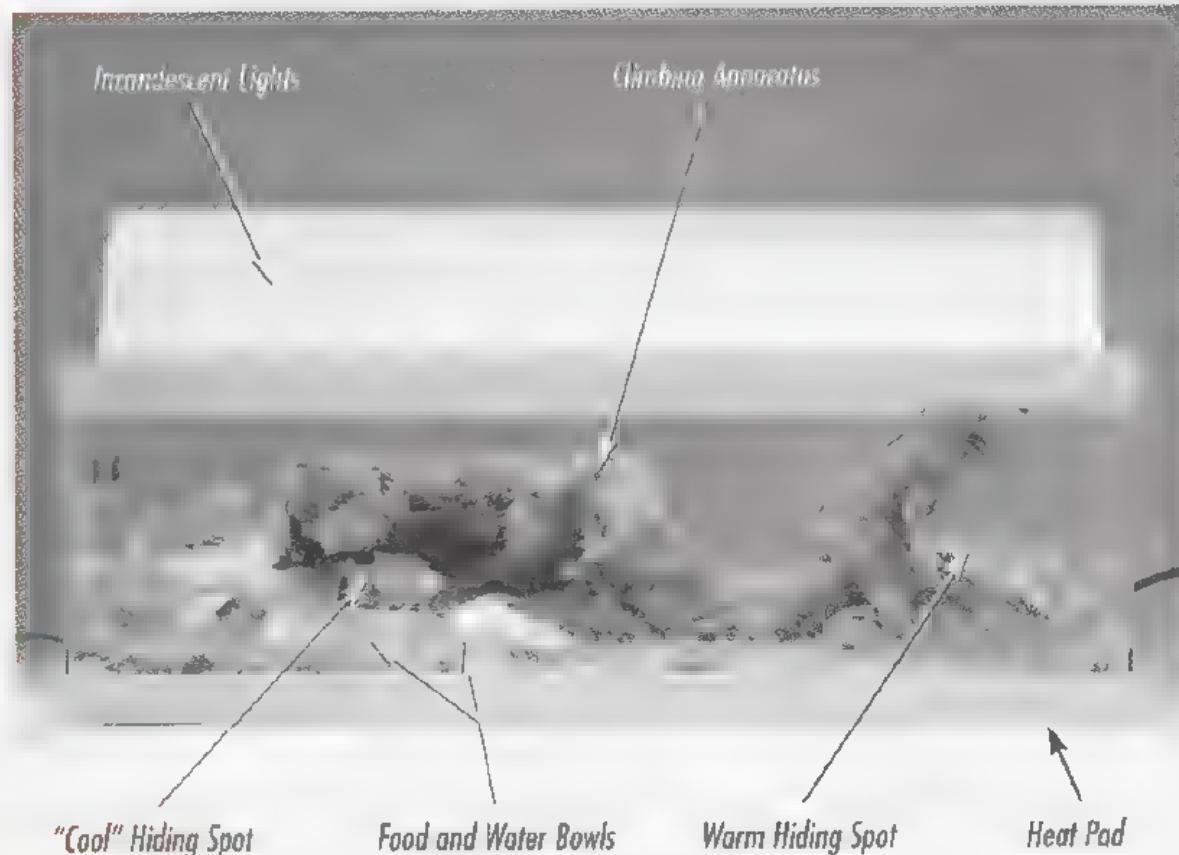


*Zoo Med's
Reptisun 2.0
Fluorescent Bulb*

The author keeps his Crabs with a special UV light, Zoo Med's Reptisun 2.0 to be exact. While there is little evidence indicating a large health or life-span difference between Crabs kept with and without UV lighting, it cannot harm them. It also provides nice color rendition for viewing of your pet Crabs.

CREATING THE ENVIRONMENT

Part of the fun of having a pet Hermit Crab is creating its enclosure. After laying down the bedding, bring all of the cage furniture together so you can look at everything that must be included in the enclosure. The author recommends setting up the basic care stations (i.e., hiding spots, food and water bowls, and heating set up) then take a few minutes to envision a small cove on the beach where the Hermit Crabs may live in the wild. Use this vision you have created in your head to "sculpt" your Hermit Crab's new home. The result should be a slice of that beach that you can keep in your home. It can be a creative and enjoyable process, and you may create a piece of artwork you're proud to display. Creating this type of naturalistic vivaria will not only give your pet Crabs a home that



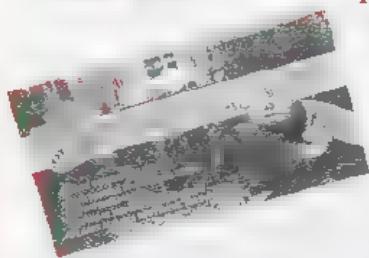
makes them feel safe and secure, but will also provide a piece of beauty in your home that is relaxing to look at. Try putting the enclosure near the Television, and see how often you catch yourself watching the Crabs instead of your favorite TV show.

When you create a slice of the beach in your house don't get too picky about the details. Your Hermit Crabs will burrow and dig, moving the bedding around as they go about their daily routine. The enclosure now has a feeling like a Zen garden, as you move the bedding back into place knowing the Crabs are only going to rearrange it shortly after you're done. This should be one of the most enjoyable parts of your crab enclosure's daily maintenance.

Collected objects may be added to your Crab's enclosure, but special care should be taken to ensure they are free of bacteria, fungus, or parasites. This is easily done by soaking the found objects in a 5% bleach solution, rinsing thoroughly, and allowing them to dry out in the sun. Plants may also be added to the enclosure, but only non-toxic plants that have had all fertilizers and pesticide residue rinsed from them. Only plants with sturdy leaves should be used, as the Crabs will climb them. Synthetic plants, such as Zoo Med's Natural Bush, may be added instead of live plants, and are certainly easier to maintain.

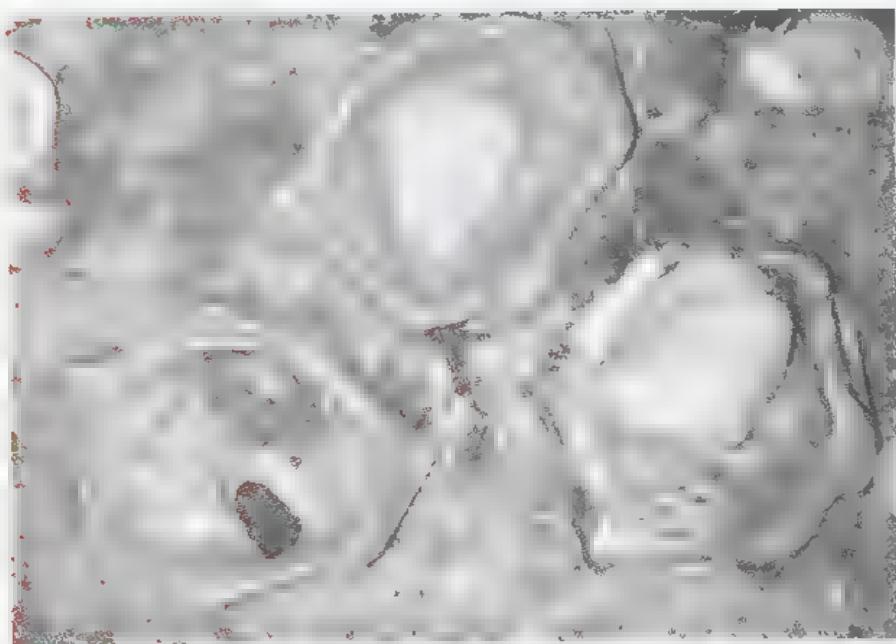
When choosing a place to put your Crabs the fact that they are nocturnal should be considered. Hermit Crabs can be very active at night, and will vigorously roam and climb about the enclosure causing a good amount of noise. Because of this, Hermit Crabs do not make good bedroom pets. It's also important not to put your Crab's enclosure in front of a window where they can easily overheat from direct sunlight beaming in throughout the day.

**Zoo Med's
Natural Bush
Plastic Plants**



HEALTH

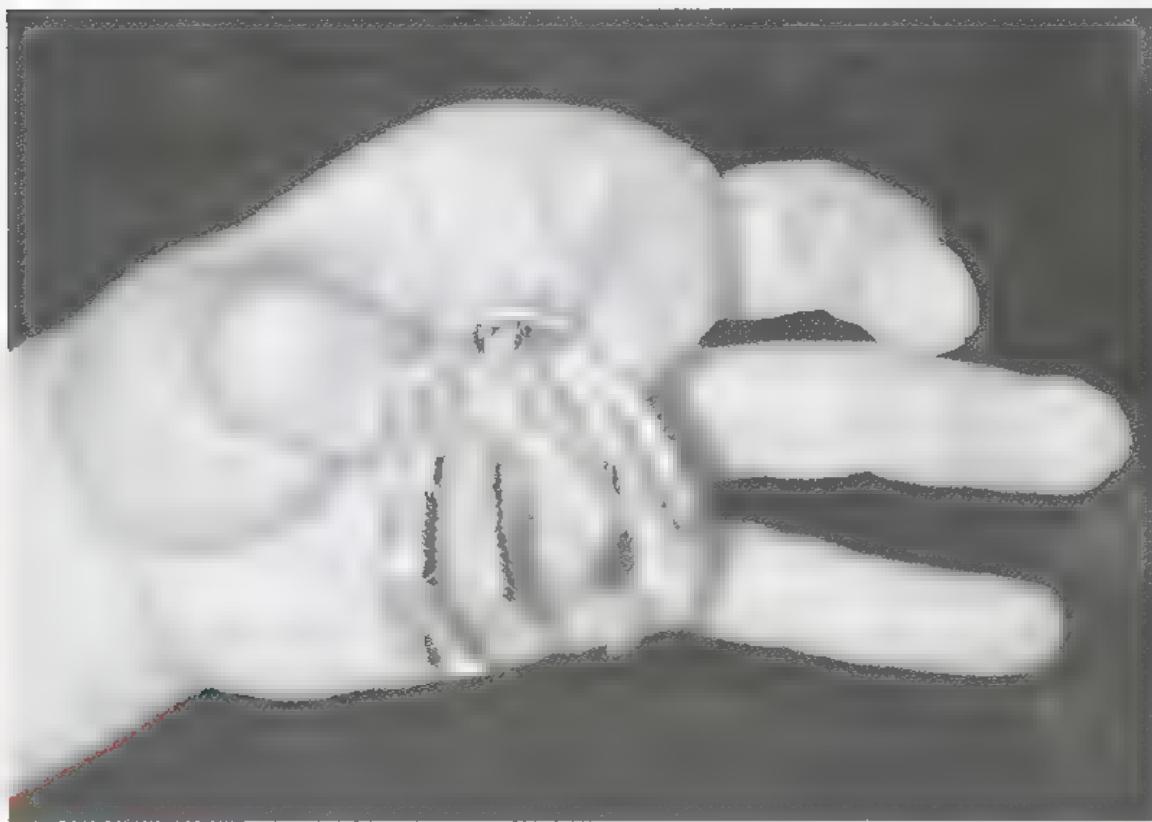
Hermit Crabs are pretty hardy captives, and as long as their basic care requirements are met, maintenance is done, and the enclosure is kept clean, they usually fare well for many years. If your Crab is showing signs of ill health, such as sluggish behavior, or inactive antennae, there is very little that can be done to help it. If you have provided your Hermit Crabs with all they require in captivity, your sick Crab may have parasites or an infection and should be separated from its cage-mates. Unfortunately, if one of your Crabs is showing signs of disease the enclosure should be sterilized to ensure other Crabs don't fall prey to the infection or disease. If you have found and isolated a sick Crab, you can try to save it by soaking the Crab in a mild solution of tropical fish antibiotics (available at your local pet shop) and water. This is one of the only treatments for diseased Crabs and unfortunately, results have proven to be inconclusive.



Two water bowls with sponges, and a food bowl.

BEHAVIOR

Hermit Crabs are rather entertaining pets, whom when kept correctly, will be energetic and a bit mischievous. They should always be kept in groups where they can be social and develop a social hierarchy. Keeping Crabs in groups will also allow the keeper to view territorial behavior, and the almost constant "king of the hill" battle the Crabs use to test dominance within the group. There is a delicate balance that must be maintained to ensure that dominance battles do not result in certain Crabs being singled out and constantly bullied. Making sure all Crabs in the enclosure are of about equal size, and that all the Crabs have their own "cubbies" for hiding, should allow for only healthy, and certainly entertaining dominance games.



The right way to hold your Hermit Crab without risking a pinch.

Hermit Crabs are rather energetic pets that will roam throughout the enclosure and climb on every available piece of furniture in the cage. While most active at night, Hermit Crabs still spend a great deal of their day active and roaming. They leisurely chase each other throughout the enclosure being easily distracted by water to drink, shells to inspect, and wood and rocks to climb.

When Hermit Crabs decide to switch shells it can happen in almost the blink of an eye. The Hermit Crab clumsily crawls out of its shell and scampers feverishly into the new shell. Hermit Crabs are most vulnerable when out of their shells with their soft tails out for the world to see. We may know that the Crabs are free from predators in their enclosures, but the scurry to get into a new shell tells us that they still aren't sure what may be lurking in the shadows. The author has witnessed his Crabs exiting their shells to give them a thorough cleaning. This sort of behavior is a sign that the Crabs are feeling very safe and secure in their home.

HANDLING

Care should be taken when handling Hermit Crabs as their claws are strong and can inflict a painful pinch. It's best to grasp your Crab firmly on the back of its shell with your thumb and forefinger. Smaller Crabs (1" or smaller) can be laid flat on your palm with your fingers outstretched as to minimize the area that their claws are able to get hold of. With a bit of time your Crab will develop trust that you do not intend to harm it and should crawl on your hands without attempting a defensive pinch, but any Crab will use its claws to climb, which may result in a non-defensive but still painful pinch.

The author has one Crab in particular who refuses to pinch under almost any circumstances, but this should not be expected behavior.

CONCLUSION

By reading this book you should have a greater understanding of the joys and responsibilities involved with having a pet Hermit Crab. You should also now have the information necessary to keep your new pet happy and healthy for its entire lifespan. If you have been won over by these inquisitive and somewhat preposterous little creatures and wish to learn more about their care, the following reading is recommended:

The Care of Land Hermit Crabs

by Philippe de Vosjoli

Land Hermit Crabs

by Edwin S. Iversen and Renate H. Skinner



MAINTENANCE CHECKLIST:

Daily:

- Clean and fill food bowl
- Clean and fill water bowls
- Clean up any uneaten food on substrate
- Mist the enclosure lightly in the early evening

Weekly:

- Thoroughly rinse out sponges
- Wipe down glass with a clean paper towel
- Give the cage a thorough inspection, checking to make sure substrate and rocks or wood are clean and free of foreign objects.

SHOPPING LIST

- 10 gal. Aquarium for 5 or 6 small (around 2") Crabs
- 20 gal. Aquarium for 2 or 3 large (3½"+) Crabs
- Zoo Med Jungle Gym®, Habba Tree®, or Reptile Vine for climbing
- Zoo Med Hermit Crab Sand &/or Hermit Soil
- 3 Small Zoo Med Repti-Rock Bowls or Ramp Bowls
- 2 Zoo Med Hermit Crab Sponges (replace monthly)
- 2 Zoo Med Habba Huts
- Zoo Med Dual Temp/Humidity Gauge
- 2 Zoo Med Clamp Lamps (one for day and one for night) or Zoo Med's Combination Reptile Strip
- Zoo Med Daylight Blue Reptile Bulb and Zoo Med Nightlight Red Reptile Bulb



Look for Zoo Med's full selection of quality **HERMIT CRAB PRODUCTS** at your local pet store



Hermit Crab Scooper



Hermit Crab Sand



Hermit Crab Heater



Hermit Crab Shells



Hermit Crab Sponge



Hermit Crab Drinking Water Conditioner



Hermit Crab Salt Water Conditioner



Hermit Crab Ramp Bowl



Hermit Crab Bright Bowls



Hermit Crab Soil



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